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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,174	02/11/2004	Ernest L. Lawton	03626.0066	9931
22852	7590	04/28/2010		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER GRAY, JILL M	
			ART UNIT	PAPER NUMBER
			1782	
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			04/28/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/775,174

Applicant(s)

LAWTON ET AL.

Examiner

Jill Gray

Art Unit

1782

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-10,14-16,18-23 and 27-75 is/are pending in the application.
- 4a) Of the above claim(s) 53-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10,14-16,18-23,27-52 and 73-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 25, 2010 has been entered.
2. Pursuant to the entry of the amendment of February 25, 2010, the status of the claims is as follows: Claims 1, 3-4, 6-10, 14-16, 18-23, 27-75 are pending. Claims 53-72 are withdrawn. Claims 73-75 are new. Claims 1, 6-10, 16, 18, and 23 are amended.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 3-4, 6-10, 14-16, 18-23, 27-52, and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartrug 3,583,882 in view of Girgis 4,440,881, for reasons of record.

The Prior art

Bartrug discloses a glass fiber product comprising at least one glass fiber and an elastomeric latex material adhered to the at least one glass fiber. In addition, Bartrug discloses that the at least one glass fiber is coated with a sizing material prior to coating with the elastomeric latex material. See entire document and for example abstract, and

column 3, lines 46-65. The sized glass fibers are coated with an aqueous elastomeric latex composition and dried to remove substantially all of the liquid component while leaving the solid component unaffected. The resultant strands are free of tack. See column 4, lines 39-60. Claim 1 requires particles adhered to the at least one strand. Bartrug discloses a rubber adhesive composition comprising a terpolymer latex dispersed in water, wherein the terpolymer is butadiene-styrene vinyl pyridine said composition coated on the glass fiber strands. See Example. The formation of a latex dispersed in water necessarily embraces particles. Note also that Bartrug teaches a coating process that minimizes splatter of particles of the composition solids. (Column 4, lines 61-70). The particles of claim 1 can be polyolefins which would encompass the elastomeric latex of Bartrug. The dried strands of Bartrug are incorporated into a rubber matrix material. More specifically, at least one glass fiber of Bartrug is at least partially coated with a coating, wherein the coating is a residue of a coating composition, wherein the coating composition is selected from a resin-compatible coating composition. It should be noted that the sized glass fibers of Bartrug meet this limitation as well.

Bartrug does not teach the average dimension of the particles in his latex.

Girgis teaches an aqueous adhesive coating composition for filamentary materials such as glass fibers and the aqueous adhesive coating composition comprises an elastomer that can be a vinyl pyridine butadiene-styrene terpolymer latex. See entire document, for example abstract, column 10, lines 15-17 and Example 1. In addition, Girgis teaches that the particle size of the elastomeric latex must be less than

2000 angstroms (0.20 μ m; 200nm), further teaching that a suitable butadiene-vinyl pyridine-styrene terpolymer is commercially available and has a particle size of 1100 angstroms (0.11 μ m; 110nm), which is within the instant claimed range. See column 10, lines 18-29.

Regarding Independent claim 1

Bartrug, as set forth above does not teach the dimension of the particles in his latex.

It is the examiner's position that a limitation with respect to the size of an article, such as the particle size, is not ordinarily a matter of invention. *In re Rose*, 105 USPQ 237 (CCPA 1955). Furthermore, Bartrug and Girgis each teach a glass fiber product comprising at least one glass fiber and particles adhered to the glass fiber, wherein the particles can be butadiene-vinyl pyridine-styrene terpolymer latex, and the glass fiber product can be incorporated into a rubber matrix material. Thus, Bartrug and Girgis are analogous art. "Section 103 requires us to presume full knowledge by the inventor of the prior art in the field of his endeavor" *In re Winslow*, 53 CCPA 1574, 1578, 365 F.2d 1017, 1020, 151 USPQ 48, 50-51, (1966).

It would have been obvious to one of ordinary skill in this art at the time the invention was made to use as the butadiene-vinyl pyridine-styrene terpolymer of Bartrug, a commercially available terpolymer such as that taught by Girgis having a low average particle size, with the reasonable expectation of success of forming glass strands having improved flexibility and improved fatigue resistance.

Regarding dependent claims 3-4, 6-10, 14-16, 18-23, 27-52, and 73-75

Regarding claims 3-4, Bartrug and Girgis each teach glass fiber strands, wherein Girgis additionally teaches the formation of woven articles. The impregnated glass strands of the prior art constitute a glass fiber prepreg.

Regarding claims 6-10, these claims are drawn to the size of the particles. As set forth above, it is the examiner's position that a limitation with respect to the size of an article, such as the particle size, is not ordinarily a matter of invention. *In re Rose*, 105 USPQ 237 (CCPA 1955). In addition, Girgis teaches that the particle size of the elastomeric latex must be less than 2000 angstroms (0.20 μ m; 200nm), further teaching that a suitable butadiene-vinyl pyridine-styrene terpolymer is commercially available and has a particle size of 1100 angstroms (0.11 μ m; 110nm), which is within the instant claimed range. See column 10, lines 18-29.

Regarding claims 14-16, 18, 32 and 73-75, Girgis teaches that two or more elastomeric latexes can be blended wherein each of the latexes can have different particle sizes, wherein the particle sizes are within the instant claimed ranges for the first average particle dimension and the second particle dimension. See column 7, lines 29-58 and column 8, lines 35-66. Moreover, it is the examiner's position that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 105 USPQ 233 (CCPA1955).

Regarding claim 19, this limitation is drawn to the shape of the particles, which is not construed to be a matter of invention in the absence of factual evidence of

unexpected or superior properties of the resultant glass product, wherein said properties are directly related to the specific particle shape.

Regarding claims 20-23 and 47-50, Girgis teaches that the amounts of various components in his coating composition can be varied to some degree and can be varied in relationship to each other, further teachings that the vinyl-pyridine latex can vary within a range from about 5 to about 55 weight percent on a dried basis of the aqueous coating composition. See column 9, line 59 through column 10 and line 3. In addition, Girgis teaches that the suitable commercially available vinyl-pyridine elastomeric latexes have 40-42% solids which would result in a coating composition comprising an amount of dispersed particles within the instant claimed ranges of present claims 47-50. Furthermore, it is the examiner's position that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Regarding claims 27-28 and 30, as set forth previously, the latex particles of Bartrug and Girgis are polyolefin, organic and solid.

Regarding claim 29, Girgis teaches that his elastomeric matrix material can contain monoolefinic hydrocarbons such as ethylene. See column 4, lines 41-44. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the coating composition to include (comprise) polyethylene particles, commensurate with the specific composition of the elastomeric matrix material to enhance adhesion of the coated glass strand and the matrix material.

Regarding claim 31, Bartrug teaches a composition comprising inorganic particles such as silica and calcium carbonate. See Example.

Regarding claims 33-46, the combined teachings of Bartrug and Girgis teach particle sizes and an amount of particles that are within the claimed critical ranges. Therefore, the examiner has reason to believe that properties such as the tractive tension of the glass fiber product, frictional tension, separation of filaments or reduction in the degree of interfilament bonding are within the parameters contemplated by applicants, in the absence of factual evidence to the contrary. Applicants are invited to provide such evidence.

Regarding claim 51, Bartrug and Girgis each teach the application of a sizing composition onto the glass fibers or the usage of sized glass fibers, i.e. glass fibers having a coating of a dried residue of a resin-compatible coating. Applicants' should note that present claim 1 does not require that the particles be present in the coating composition comprising a dried residue of a resin-compatible coating. Moreover, present claim 1 does not require that the particles be present in a coating composition.

Regarding claim 52, the specific type of glass fibers is not construed to be a matter of invention in the absence of factual evidence of unexpected or superior properties in the resultant glass fiber product, wherein said properties are directly related to the specific type of glass fiber used. Applicants are invited to provide such evidence. In addition, Girgis teaches that glass fibers of the type contemplated by applicants can be used. See column 4, lines 4-13.

Therefore, the combined teaching of Bartrug and Girgis would have rendered obvious the invention as claimed in present claims 1, 3-4, 6-10, 14-16, 18-23, 27-52, and 73-75.

Response to Arguments

5. Applicant's arguments filed February 25, 2010 have been fully considered but they are not persuasive.

Applicants argue that Girgis teaches away from any particle sizes above 200 nm and thus cannot be combined with Bartrug to render obvious coated strands with particle sizes above 2000 Angstroms.

In this regard, present claim 1 is not limited to particle sizes above 2000 Angstroms. Accordingly, the teachings of Bartrug in view of Girgis render obvious the invention of present claim 1.

Applicants argue that Girgis does not fairly suggest a range of particles lower than 50 nm, since the examples and descriptions in Girgis teach particles at least 50 nm in size, further arguing that nothing in Girgis suggests the specifically recited range of from 10 nm to 35 nm.

In this regard, it is the examiner's position that the teaching of Girgis that the particle size must be less than 200 nm, and the additional teachings in the utilizing various particle sizes lower than 200 nm such as 50 nm or 70 nm in combination with his desire for a low average particle size, would have provided motivation to the skilled artisan at the time the invention was made to perform routine experimentation to determine an optimal and/or desirable particle size and range. Girgis provides clear

direction to the skilled artisan for lower average particles sizes. Again, it is the examiner's position that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Applicants argue that Bartrug and Girgis are directed towards different problems and thus the Office improperly combined these two references.

The examiner disagrees. Bartrug and Girgis are each drawn to coating glass fiber products with elastomeric materials such as vinyl-pyridine latexes. Accordingly, these references are analogous prior art. Moreover, it is the examiner's position that the test for combining references is not what the individual references themselves suggest but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971).

Applicants argue that they have found that different particle sizes exert different effects on the properties of coated filaments and thus have provided evidence of a result different in kind, not just degree which is directly attributable to the particle dimensions claimed.

In this regard, there is no clear factual evidence on this record that the glass fiber products of the prior art do not possess the present claimed properties of a reduction in tackiness.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/
Primary Examiner
Art Unit 1782

jmg